FEASIBILITY STUDY FOR THE PORT OF IGOUMENITSA

Jointly on eco-routes

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Port Operator: SUPERFAST FERRIES
South East Europe Transnational Cooperation Programme

PRIORITY AXIS 2: Protection and Improvement of the Environment
AREA OF INTERVENTION 2.2: Improve prevention of environmental risks

Project “Transnational ENhancement of ECOPORT8 network”

TEN ECOPORT project – Code SEE/D/0189/2.2/X
Feasibility Studies for Port Operators
Port of Igoumenitsa
Port Operator: SUPERFAST FERRIES

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1. Summary

The scope of the present Feasibility Study is the evaluation of the participation of an External Port Operator (EPO) to the Environmental Management System (EMS) of the Port of Igoumenitsa.

The External Port Operator chosen for the scope of the present study is SUPERFAST FERRIES. As one of the major operators of the Port of Igoumenitsa, has several environmental aspects.

The main environmental risk identified during the development of the current Project, is the air pollution, caused by ship emissions of gases and particles to atmosphere.

Special actions for the mitigation of the risk are assessed in the Feasibility Study.

The new-generated knowledge could be transferred to other EPO (other ship companies who operate in the Port of Igoumenitsa). Furthermore knowledge could be also transferred to other ports, in which the same ship companies operate.
2. Description of the port

Igoumenitsa Port Authority (OLIG S.A.) is a state owned company governed by public law. Its main activities include, management of the port domain, development of port services, opening new activities in the maritime sector, etc. OLIG S.A. is constituted from four different directorates (Administration, Finance & Supplies - Port Services - Development - Works) with discrete responsibilities which cooperate closely under the guidance of the board of directors. An average annual budget of the company is about 15,000,000 euros. Igoumenitsa Port Authority has significant expertise in national, international and EU funded projects.

Igoumenitsa Port Authority basically provides services regarding the mooring of vessels and the transport of passengers and vehicles. It is also responsible for the aesthetic formation and the smooth functioning of the port’s ground marine belt and the collection of waste inside the harbour zone. At the same time, it leases estates citizens and open-air areas which are property of the Port Authority. The port also provides parking areas for the citizens of Igoumenitsa. The place is located inside the city of Igoumenitsa, at the harbor area. The Organization has under its jurisdiction the harbor belts of Sivota and Sagiada, locations of extreme beauty, were there is a possibility for the development of a marinas’ network. Igoumenitsa Port Authority has installed, documented, implemented and maintains a Quality Management System, whose effectiveness it constantly updates under the requirements of the ISO 9001: 2008 Standard and the requirements of Circular 4670/ΕΥΣ551/1-2-2008 of the Ministry of Finance, as well as an Environmental Management System in accordance with the requirements of standard ISO 14001:2004 and Port Environmental Review System (PERS) certification.
3. Chosen EPO (External Port Operator) description

Attica Group is the parent company of the Superfast Ferries fleet and the Blue Star Ferries fleet. The group's ships operate in domestic and international waters, offering connections between Greece and Italy in the Adriatic Sea and between mainland Greece and the Cycladic, Dodecanese Islands and Crete.

The Group operates the following routes in the Adriatic Sea market:

- PATRAS-IGOUMENITSA-ANCONA (jointly operated with ANEK Lines)
- PATRAS-IGOUMENITSA-CORFU-BARI

with the ships: Superfast XII, Superfast XI, Superfast I and Superfast II.

The Group companies evaluate annually such environmental issues and seek to minimize their impact on the environment. The most important of these issues pertain to air emissions, discharges into the sea, waste disposal, land pollution, use of raw materials and resources, and environmental demands of local communities. Further to strict compliance with all international, regional and local regulations on environmental protection the Group aspires to the following policy objective:

- Continuous investment in new technologies and to implement environment-friendly methods;
- Minimization of any adverse effects of machinery operation also by ensuring the unimpeded equipment operation through its proper and timely maintenance;
- Encouragement of staff (office and maritime personnel) to adopt environment-friendly practices and develop environmental awareness through proper information and training;
- Active participation in organizations that promote the principles of environmental safety and protection;
- Participation in international research and development programs that promote efficiency, accountability and pollutants reduction within the shipping sector;
- To be constantly updated on environmental issues and to adopt new cutting edge practices regarding the environment.

The Attica Group fleet consists mainly of modern, newly built vessels that meet the full range of international regulations on environmental protection, the major thereof being MARPOL 73/78 Regulation of the International Maritime Organization (IMO). The Group companies Superfast Ferries and Blue Star Ferries were the first companies of the passenger-shipping sector that received the ISO 14001:1996 Environmental Management certification. The Group ships have all received the same certification. Furthermore, the effectiveness and dynamics of said Environmental Management System are certified by the American Certification Body "ABS Quality Evaluations" of the International Group of Companies "American Bureau of Shipping". In 2006, the Group companies and vessels received the certification of the new environmental management standard ISO 14001:2004.
4. EPO risk assessment

Table 1 General risk assessment of Igoumenitsa Port’s EPOs (Shipping Companies, Coast Guard, Customs Office)

<table>
<thead>
<tr>
<th>Environmental issues</th>
<th>Activities, products &amp; services</th>
<th>Aspects that effect the environment</th>
<th>Impacts on the environment</th>
<th>Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Air</strong></td>
<td>Ships and trucks at the port area</td>
<td>Air pollution caused by exhausted gasses</td>
<td>Greenhouse effects, greater level of air toxic components</td>
<td>Ships keep high speed inside the gulf of Igoumenitsa. Tracks and vehicles do not limit their speed inside port area.</td>
</tr>
<tr>
<td><strong>Water</strong></td>
<td>Repairing, washing and fuel supplying port’s vehicles and machines. Trash bins inside the port area.</td>
<td>Water pollution caused by effluent contaminants discharged into port water. Also there is water pollution by surface runoff.</td>
<td>Degradation on water’s quality, greater level of water toxic components</td>
<td>Repairs, maintenance and paint works, do not take place in a restricted area. There is disposal of paints into waste channels. Trash bins are placed in open areas and are washed out by rain. The trash bins are not be cleaned by cleaning vehicle.</td>
</tr>
<tr>
<td><strong>Natural Resources Usage</strong></td>
<td>Port employees (in offices)</td>
<td>Natural Resources Consumption by the wasteful use of paper, glass and plastic</td>
<td>Natural Resources Consumption</td>
<td>Poor existence of recycling bins (paper, oil, plastic, etc) inside the port area. Lack of training in recycling policy.</td>
</tr>
</tbody>
</table>
### Table 2: Matrix of EPOs (Shipping Companies, Coast Guard, Customs Office) risk

<table>
<thead>
<tr>
<th>Relation / Risk caused by</th>
<th>Ship</th>
<th>Cargo handling equipment</th>
<th>Transportation devices</th>
<th>Employees (on port workers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ship to shore</td>
<td>X</td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Ship-buffer zone</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ship-truck</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Ship-wagon</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ship-buffer-warehouse</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>...</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shore to ship</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Wagon-port gateway-ship</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Truck-port gateway-ship</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Warehouse-buffer zone-ship</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>...</td>
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</tbody>
</table>

The most important relationship, which is causing the greatest risk and consequently environmental impacts, is the air pollution from EPO’s activities.
5. **EPO (the greatest) risk reduction/elimination action**

a) **What is (are) the greatest risk(s) considered EPO at your port?**

The greatest risk is the air pollution, caused by ship emissions of gases and particles to atmosphere.

b) **What can be done to reduce or eliminate it(them)?**

<table>
<thead>
<tr>
<th>Decisions Planned</th>
<th>Actions and Timing</th>
<th>Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>[Decision 1]</strong> Reduction on the ship emissions of gases and particles to atmosphere</td>
<td>[Action 1.1] Deactivate their main engines within the port area.</td>
<td>[involved in action 1.1] Superfast Ferries</td>
</tr>
<tr>
<td></td>
<td>[Action 1.2] Deactivate their auxiliary power producing engines in case they remain within the port area for more than 3 hours.</td>
<td>[involved in action 1.2] Superfast Ferries</td>
</tr>
<tr>
<td></td>
<td>[Action 1.3] Operate in full power after leaving Igoumenitsa’s gulf.</td>
<td>[involved in action 1.3] Superfast Ferries</td>
</tr>
<tr>
<td></td>
<td>[Action 1.4] Use purer fuels at least while the ships stay within the port area.</td>
<td>[involved in action 1.4] Superfast Ferries</td>
</tr>
<tr>
<td><strong>[Decision 2]</strong> Monitoring the Emissions of gases and particles to atmosphere</td>
<td>[Action 2] Installation of an air detector who measures CO, SO$_2$, NO$_2$, O$_3$</td>
<td>[involved in action 2] SCIENTACT S.A.</td>
</tr>
</tbody>
</table>
6. Human resources, equipment and costs

- **Who will they be?**
  Three employers from Igoumenitsa Port Authority S.A. and two from the EPO.

- **What will be the costs?**
  The estimated cost will be overhead of 10% on flat rate salary.

- **What will be their duties?**
  From Igoumenitsa Port Authority S.A.:
  - one for the data monitoring
  - one responsible for the communication with EPO
  - one responsible for training.
  From EPO:
  - one on port for the communication with the port employers
  - one per ship on board, in order to apply in situ the decided actions.

- **Do they need the appropriate training**
  There is no need for appropriate training, due to the participation of the employers to technical seminars, workshops and round tables

- **What kind of equipment is needed?**
  Air detector who measures CO, SO₂, NO₂, O₃ is already installed. Wireless network exists and is ready for the integration of sensors.

- **Do you have a need for purchasing new equipment, or the action can be done with the existing equipment?**
  There is a need for installation of two more air detectors and a purchase of 2 portable.

- **What are the costs of the required (new) equipment?**
  The cost for the required equipment is about 35000€.
7. Worthiness of the EPO proposed environmental action

a) By taking into the consideration both risks and the costs, is the action worthwhile of realizing in economical and environmental terms?

It is worth a lot. There is a low cost for the implementation but the results will show reduction on air pollution indicators.

b) How will it affect the strategy of the whole port authorities EMS (short term, up to one year, and long-term)?

In short term: First of all, there will be a reduction in air pollution. Moreover it will affect the strategy very positively, by the establishment of a better common understanding and the implementation of the initial action, will lead to a better long term cooperation in dealing with other critical environmental issues.

c) Is there a possibility to transfer the new-generated knowledge throughout conducted EMS action to another EPOs within your port, or to another ports?

Yes, the new-generated knowledge could be transferred to another EPO (other ship companies who operate in the Port of Igoumenitsa). Moreover, knowledge could be also transferred to Patras port in which the same ship companies operate.